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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/787,211	02/27/2004	Chein-Wei Jen	BHT-3230-88	4688

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EXAMINER
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MOLL, JESSE R

ART UNIT	PAPER NUMBER
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2181

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/787,211	<b>Applicant(s)</b> JEN ET AL.	
	<b>Examiner</b> Jesse R. Moll	<b>Art Unit</b> 2181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.


### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

  
**FRITZ FLEMING**  
 Supervisory PRIMARY EXAMINER  
 GROUP 2100  
 AU 481  
 4/14/2006

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>09 June 2004</u> | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. Claims 1-5 have been examined.

Acknowledgment of papers filed: oath, specification, drawings, and IDS, on February 27, 2004. The papers filed have been placed on record.

### ***Claim Objections***

2. Claim 3 is objected to because Examiner requests that "crossbar router or by other routing structures" be replaced with "a routing structure". Since the port mapping can be done by a crossbar router or by **other** routing structures, the port mapping can be done by any routing structure.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 4 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 4 recites the limitation "wherein neither the size of the said partitioned register files nor the number of the said ports is limited." It is not possible to create register files of an unlimited size because there is always a size/material limit. For the purpose of examination, Examiner assumes the limitation read "wherein the size of said portioned register file and number of said ports is scalable."

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim 1 recites the limitation "the clustered functional units" in line 2. There is insufficient antecedent basis for this limitation in the claim. For the purpose of examination, Examiner assumes the limitation reads "clustered functional units". Claim 1 additionally recites the limitation "the said clusters" in line 3. There is insufficient antecedent basis for this limitation in the claim. For the purpose of examination, Examiner assumes the limitation reads "clusters".

8. Claim 2 recites the limitation "the port mapping" in line 2. There is insufficient antecedent basis for this limitation in the claim. For the purpose of examination, Examiner assumes the limitation reads "a port mapping".

9. Claim 4 recites the limitation "the said partitioned register files" in lines 2-3.

There is insufficient antecedent basis for this limitation in the claim. For the purpose of examination, Examiner assumes the limitation reads "partitioned register files". Further, it is unclear what is claimed by the limitation "wherein neither the size of the said partitioned register files nor the number of the said ports is limited."

10. Claims 3 and 5 are rejected because of their dependence on indefinite parent claims.

***Claim Rejections - 35 USC § 102***

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Balmer (U.S. Patent Application Publication 2002/0108026 A1).

13. Regarding claim 1, Balmer discloses a method for inter-cluster communication that employs register permutation, wherein the clustered functional units (Unit Groups 78-84; see fig. 20) have some global registers (Register Files; see fig. 8), and the said clusters (Datapaths A and B; see fig. 8) exchange data (read data across Crosspath 86;

see paragraph 40, lines 10-13) by permuting the said global registers of each cluster (see paragraph 40, lines 10-13).

*Note that according to WordNet ® 2.0, © 2003 Princeton University, permute is defined as "change the order or arrangement of". Moving register data from a register file to a functional unit is considered permuting the registers.*

14. Regarding claim 2, Balmer discloses the method for inter-cluster communication that employs register permutation according to claim 1, wherein the register permutation is done by dynamically changing the port mapping between the global registers and the functional units (by MUXes 144 and 146; see fig. 10; page 6, lines 8-11).

*Note that routing data from one place to another is considered mapping. Therefore, changing the destination of the register output port is considered changing the port mapping.*

15. Regarding claim 3, Balmer discloses the method for inter-cluster communication that employs register permutation according to claim 2, wherein the said port mapping is done by a crossbar router or by other routing structures (Crosspath 86; see paragraph 40, lines 10-13).

*Note that crosspath is a structure that routes information and is therefore a routing structure.*

16. Regarding claim 4, Balmer discloses the method for inter-cluster communication that employs register permutation according to claim 1, wherein the size of said portioned register file and number of said ports is scalable (see paragraph 78, lines 3-6).

17. Regarding claim 5, Balmer discloses the method for inter-cluster communication that employs register permutation according to claim 1, further comprising any number of cluster structures (2; Datapaths A and B; see fig. 8).

*Note that the number 2 falls within the limitation "any number".*

### **Conclusion**

18. The following is text cited from 37 CFR 1.11(c): In amending in reply to a rejection of claims in an application or patent under reexamination, the applicant or patent owner must clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. The applicant or patent owner must also show how the amendments avoid such references or objections.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jesse R. Moll whose telephone number is (571)272-2703. The examiner can normally be reached on M-F 8:00 am - 4:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fritz M. Fleming can be reached on 571-272-4145. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JM 4/10/06

*Fritz M. Fleming*  
Supervisor **FRITZ FLEMING**  
**PRIMARY EXAMINER** 4/14/2006  
**GRC 2100**  
**AU 2181**